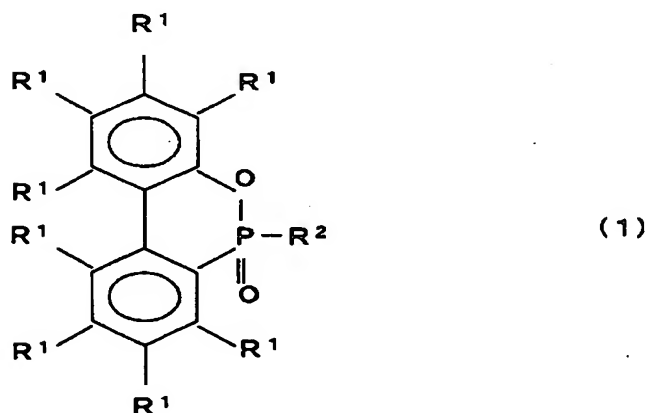


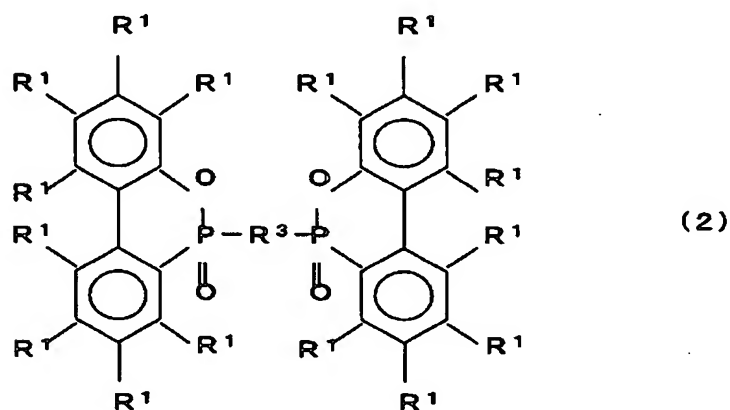
## CLAIMS

1. A flame retardant polyester fiber for artificial hair made of a composition obtained by melt kneading: 100 parts by weight of a polyester (A) comprising one or more kinds selected from polyalkylene terephthalates and copolymerized polyesters having a polyalkylene terephthalate as a principal component, and 2 to 20 parts by weight of an organic cyclic phosphorus compound and/or a phosphoric ester amido compound (B).
2. The flame retardant polyester fiber for artificial hair according to claim 1, wherein the component (A) is at least one kind of polymer selected from a group consisting of polyethylene terephthalate, polypropylene terephthalate, and polybutylene terephthalate.
3. The flame retardant polyester fiber for artificial hair according to any one of claims 1 and 2, wherein the component (B) is an organic cyclic phosphorus compound and/or a phosphoric ester amido compound represented by general formulas (1) to (9):

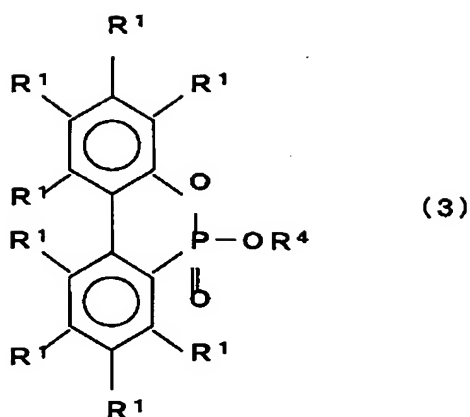


(where, R<sup>1</sup> represents a hydrogen atom, or a linear alkyl group,

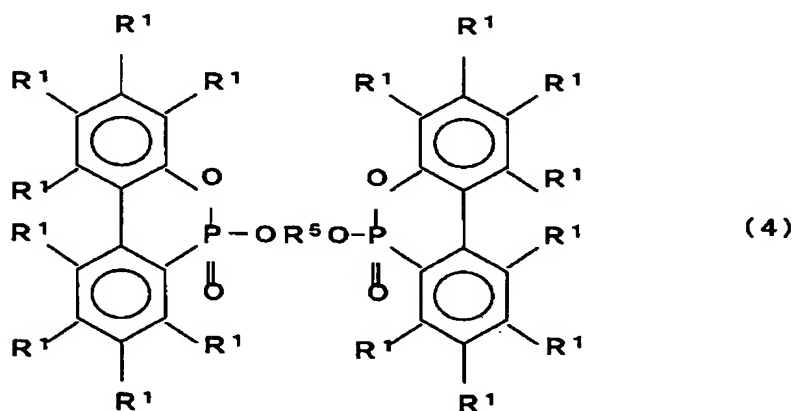
or an alkyl group having a branch, and each of the  $R^1$  may be identical or different from each other, and  $R^2$  represents a hydrogen atom, a linear alkyl group, or an alkyl group having a branch, a linear hydroxy alkyl group, or a hydroxy alkyl group having a branch, a cycloalkyl group, a substituted or non-substituted aryl group, or a substituted or non-substituted aralkyl group);



(where,  $R^1$  represents a hydrogen atom, a linear alkyl group, or an alkyl group having a branch, and each of the  $R^1$  may be identical or different from each other,  $R^3$  represents a divalent linear alkylene group or divalent alkylene group having branch, a linear hydroxy alkyl group, or a hydroxy alkyl group having a branch, a cycloalkylene group, an alkylene group having ether oxygen in a principal chain thereof, a substituted or non-substituted aryl group, a substituted or non-substituted aralkyl group, an  $\alpha, \alpha'$ -xylylene group, a substituted  $\alpha, \alpha'$ -xylylene group, an  $\alpha, \alpha'$ -meta-xylylene group, or a substituted  $\alpha, \alpha'$ -xylylene group);

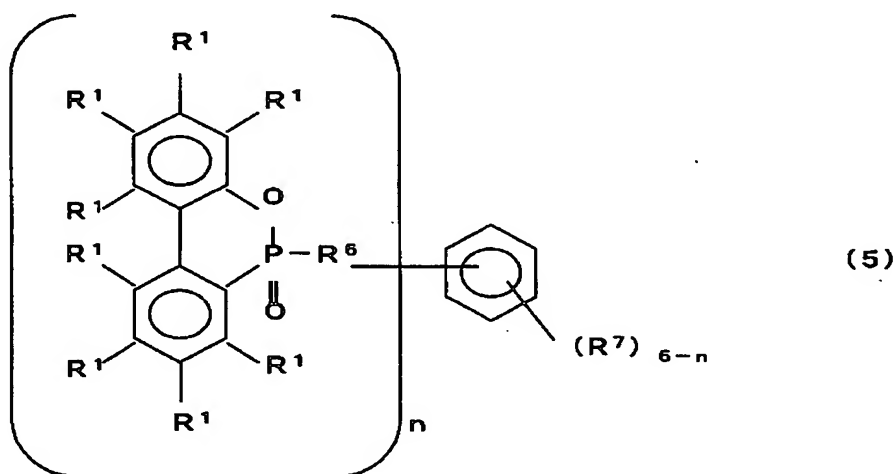


(where,  $R^1$  represents a hydrogen atom, a linear alkyl group, or an alkyl group having a branch, and each of the  $R^1$  may be identical or different from each other,  $R^4$  represents a  
 5 hydrogen atom, a linear alkyl group, or an alkyl group having a branch, a cycloalkyl group, a substituted or non-substituted aryl group, or a substituted or non-substituted aralkyl group);

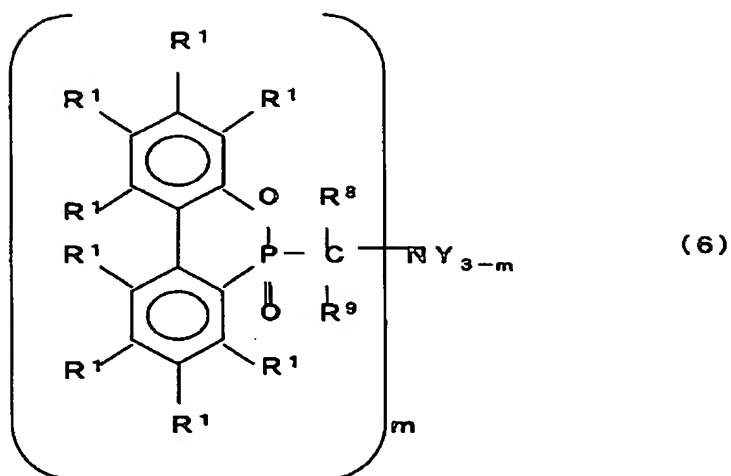


10 (where,  $R^1$  represents a hydrogen atom, a linear alkyl group, or an alkyl group having a branch, and each of the  $R^1$  may be identical or different from each other, and  $R^5$  represents a divalent linear alkylene group or divalent alkylene group

having branch, a cycloalkylene group, an alkylene group having ether oxygen in a principal chain thereof, a substituted or non-substituted aryl group, a substituted or non-substituted aralkyl group, an  $\alpha,\alpha'$ -xylylene group, a substituted- $\alpha,\alpha'$ -xylylene group, an  $\alpha,\alpha'$ -meta-xylylene group, or a substituted- $\alpha,\alpha'$ -xylylene group);



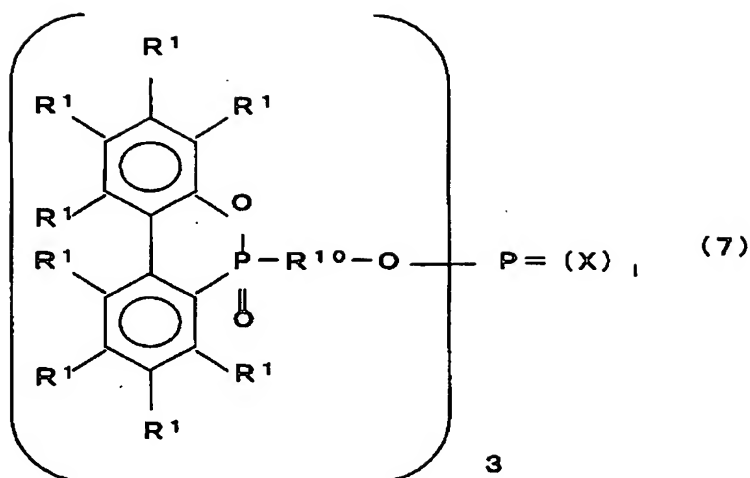
(where,  $R^1$  represents a hydrogen atom, a linear alkyl group, or an alkyl group having a branch, and each of the  $R^1$  may be identical or different from each other,  $R^6$  represents a divalent linear alkylene group or divalent alkylene group having branch, a cycloalkylene group,  $R^7$  represents a hydrogen atom, a linear alkyl group, or an alkyl group having a branch, each of the groups may be identical or different from each other,  $n$  represents 1 to 6);



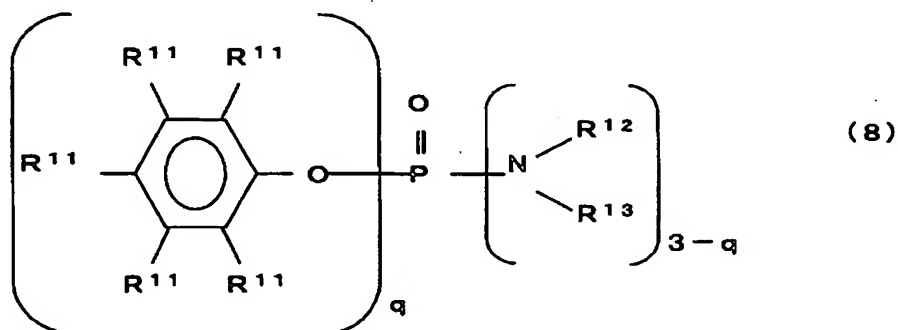
(where,  $R^1$  represents a hydrogen atom, a linear alkyl group, or an alkyl group having a branch, and each of the  $R^1$  may be identical or different from each other,  $R^8$  and  $R^9$  represent

5 a hydrogen atom, a linear alkyl group, or an alkyl group having a branch, or a cycloalkyl group, Y represents a hydrogen atom, a linear alkyl group, or an alkyl group having a branch, a cycloalkyl group, a substituted or non-substituted aryl group, or a substituted or non-substituted aralkyl group, each of them

10 may be identical or different from each other, and m represents 1 to 3);

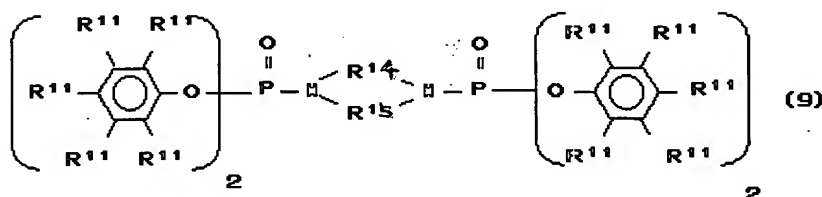


(where,  $\text{R}^1$  represents a hydrogen atom, a linear alkyl group, or an alkyl group having a branch, and each of the  $\text{R}^1$  may be identical or different from each other,  $\text{R}^{10}$  represents a  
 5 divalent linear alkylene group or divalent alkylene group having branch, a linear hydroxy alkyl group, or a hydroxy alkyl group having a branch, a cycloalkylene group, an alkylene group having ether oxygen in a principal chain thereof, a substituted or non-substituted aryl group, or a substituted or  
 10 non-substituted aralkyl group, X represents oxygen atom or sulfur atom, and 1 represents 0 or 1);



(where,  $\text{R}^{11}$  represents a hydrogen atom, a linear alkyl group,

or an alkyl group having a branch, and each of the  $R^{11}$  may be identical or different from each other,  $R^{12}$  and  $R^{13}$  represent a hydrogen atom, a linear alkyl group, or an alkyl group having a branch, a linear hydroxy alkyl group, or a hydroxy alkyl group having a branch, a cycloalkyl group, a substituted or non-substituted aryl group, or a substituted or non-substituted aralkyl group, and  $q$  represents 1 or 2);



(where,  $R^{11}$  represents a hydrogen atom a linear alkyl group, or an alkyl group having a branch, and each of the  $R^{11}$  may be identical or different from each other,  $R^{14}$  and  $R^{15}$  represent a divalent linear alkylene group or divalent alkylene group having branch, a linear hydroxy alkyl group, or a hydroxy alkyl group having a branch, a cycloalkylene group, an alkylene group having ether oxygen in a principal chain thereof, a substituted or non-substituted aryl group, or a substituted or non-substituted aralkyl group.)

4. The flame retardant polyester fiber for artificial hair according to any one of claims 1 to 3, wherein organic fine particles (C) and/or inorganic fine particles (D) are further blended in a composition comprising component (A) and (B) to form fine projections on the surface of the fiber.

5. The flame retardant polyester fiber for artificial hair

according to claim 4, wherein the component (C) is at least one kind of material selected from a group consisting of polyarylates, polyamides, fluororesins, silicone resins, cross-linked acrylic resins, and cross-linked polystyrenes.

5 6. The flame retardant polyester fiber for artificial hair according to claim 4, wherein the component (D) is at least one kind of material selected from a group consisting of calcium carbonate, silicon oxide, titanium oxide, aluminum oxide, zinc oxide, talc, kaolin, montmorillonite, bentonite, and mica.

10 7. The flame retardant polyester fiber for artificial hair according to any one of claims 1 to 6, wherein the flame retardant polyester fiber is of a form of non-crimped fiber.

8. The flame retardant polyester fiber for artificial hair according to any one of claims 1 to 7, wherein the flame  
15 retardant polyester fiber is spun-dyed.

9. The flame retardant polyester fiber for artificial hair according to any one of claims 1 to 8, wherein the flame retardant polyester fiber has a single fiber size of 5 to 100 dtex.